

**NATIONAL SCIENCE FOUNDATION  
ARLINGTON, VA 22230**

**Engineering Directorate  
Division of Design, Manufacture & Industrial Innovation**

**Report of the  
Advisory Committee for  
Small Business Innovation Research (SBIR) and  
Small Business Technology Transfer (STTR) Programs**

**Meeting Minutes  
7 and 8 January 2004  
Dallas, TX**

## **A. INTRODUCTION**

The National Science Foundation (NSF) Advisory Committee (AdComm) for the Small Business Innovation Research (SBIR) and Small Business Technology Transfer (STTR) Programs met on 7 and 8 Jan 2004 at the Wyndham Anatole Hotel, Dallas, TX. The meeting was held during the 2004 NSF Design, Service and Manufacturing Grantees and Research Conference 4-8 Jan 2004 at the same location (called hereafter DMII Conference).

The meeting commenced on Wed 7 Jan 2004 at 2:00 PM and ended at approximately 6:00 PM. The meeting continued on Thu 8 Jan 2004 at 10:00 AM and ended approximately at 12:00 Noon.

Advisory Committee members in attendance were:

Dr. Chris Busch (Chairman)  
Mr. Sudhir Bhagwan  
Ms. Jo Anne Goodnight  
Ms. Penny K. Pickett  
Mr. Michael Sheridan (Wednesday only)  
Mr. David Spencer  
Mr. Milton Stewart  
Dr. E. Jennings Taylor  
Dr. Carole Teolis  
Ms. Meg Wilson

Advisory Committee members absent:

Dr. Nariman Farvardin  
Dr. Lizette Velazquez  
Mr. Billy Williams

NSF SBIR COV (May 2004) Members Present:

Mr. Tyrone Taylor (Wednesday only)  
Mr. Timothy Jones (Wednesday only)

NSF representatives attending the meeting were:

Mr. Ritchie Coryell, SBIR Program Office (Wednesday only)  
Jonetta Fantroy, SBIR Program Office  
Dr. Joe Hennessey, Senior Advisor, Industrial Innovation  
Dr. Kesh Narayanan, Director, Industrial Innovation  
Ms. Sonya Lucas, SBIR Program Support Contractor  
Ms. Donna Jackson, SBIR Program Support Contractor  
Ms. LaTashia Stevens, SBIR Program Support Contractor

Others present:

Rosalie Ruegg, NRC (TIA Consulting Inc.) (Wednesday only)  
Joan Stewart

## **B. MEETING TOPICS AND RECOMMENDATIONS**

Wednesday, 7 Jan 2004

### **1. Introductions**

AdComm members, NSF representatives and guests attending the meeting introduced themselves. Jo Anne Goodnight (NIH SBIR/STTR Coordinator) was welcomed as an incoming AdComm member.

### **2. Review of Materials**

Kesh Narayanan briefly reviewed materials included in the AdComm members' packets. These included:

- Committee of Visitor's (COV) Report Template
- The 2001 COV Report
- The 17-18 Jun 2003 NSF SBIR AdComm Committee Report
- NSF FY 2004 Strategic Goals
- OSTP R&D Priorities
- Conference SBIR Presentation Quad Charts
- Matchmaker Program "Technology Prospectus" of NSF SBIR Projects

### 3. Feedback on Conference Poster Session

Generally, the AdComm consensus was that the quality of posters presented improved significantly compared to those at the 2003 Birmingham DMII Conference.

However, the AdComm also believes that most SBIR posters indicate that the presenters lack a clear understanding of the commercialization aspects of their projects. Most of the posters still do not address the technology applications in market terminology. It was noted that clear company contact information was not provided on many of the posters.

Jo Anne Goodnight raised the issue of expectations conveyed to presenters about material to be conveyed in the poster presentations. NSF responded to the AdComm's previous recommendation (January 2003) to provide poster presenters with guidelines for commercialization content. AdComm members commented that that the commercialization coverage in the poster materials had improved over the previous year, and suggested that presenters be provided expanded guidance defining the audience viewing the posters and NSF expectations for the poster sessions.

The AdComm noted, however, that there were a few excellent posters. The AdComm recommends that AdComm members list "model" posters displayed at the next conference so that program managers could go back and seek permission to highlight those examples at future conferences. The AdComm members asked NSF to look more fully at this suggestion as well as the composition of the audience for the posters at the June 2004 meeting.

As reflected in the AdComm report from Jan 2003 (Birmingham), Jennings Taylor surveyed the SBIR posters at this conference for commercialization content. He characterized the posters commercialization "strategies" and "activities" content in three categories: "No," "Little," or "More." The results of Jennings Taylor's survey of 168 of the 189 SBIR Phase 2 Project posters is presented below:

	No. of Posters Discussing:	
	Commercialization Strategies	Commercialization Activities
No Discussion	44 (26%)	69 (41%)
Little Discussion	76 (45%)	60 (36%)
More Discussion	48 (29%)	39 (23%)

### 4. Feedback on Rest of Conference

The AdComm praised the quality of the conference sessions (and the associated speakers) that focused on commercialization:

Inventing, Patenting and Licensing (Patrick MacCarthy)  
SBIR/STTR Matchmaker – Seeking Capital  
SBIR/STTR Successes – Growing the Business

The AdComm discussed session formats for subsequent conferences that would actively engage participants in commercialization issues. The concept of a “mini boot camp” was discussed. Michael Sheridan cited a course he presents at the University of Maryland that could be adapted to the conference.

## **5. Commercialization Assistance Discussion**

Kesh Narayanan reviewed the commercialization assistance currently provided by NSF via two contractors. The NSF commercialization assistance program provides support to Phase 1 grantees in preparing Phase 2 proposal commercialization plans. NSF and EPA are 2 SBIR agencies that provide this service – there may be others. Other agencies provide assistance in Phase 2 to assist in successful transition to commercialization in Phase 3.

Generally, the AdComm believes that the quality of Phase 2 commercialization plans has improved over the past several years. However, a broad range of opinions was expressed about the merits of the present NSF commercial planning assistance provided. Some (Mike Sheridan) conveyed feedback from small businesses that the assistance was of no value, while others (e.g., Dave Spencer and Carole Teolis) cited value to their small businesses from the input received.

Several members stated that the value of commercialization assistance received is closely coupled to the individual mentor assigned to the small business by the providers. The challenges of recent rapid business growth experienced by the business assistance providers were discussed, along with the corresponding challenge to provide high quality mentors.

It was suggested that the current assistance providers under contract to NSF SBIR give the AdComm a presentation on:

1. what is taught to participating grantees (services provided);
2. the number of grantees currently involved and time allocated to them along with the projected number of companies expected to join; and
3. discussion of measurable outcomes or assessment tools. Members asked that this presentation take place at the next AdComm meeting to help in evaluating the effectiveness of the services.

Ritchie Coryell cited his belief that small business are now thinking in a more “organized way” about planning their commercialization course, a possible consequence of commercialization assistance provided.

Kesh Narayanan requested advice on possibly providing commercialization assistance in Phase 2. The AdComm recommends further discussion on this subject at future meetings.

## **6. Commercialization Analysis**

Kesh Narayanan provided a historical overview of commercialization evaluation at NSF that began with Roland Tibbetts assessment in 1996. Kesh noted that a contractor was tasked to evaluate commercialization outcome, but that small businesses were reluctant/unwilling to provide information to a private contractor rather than a NSF program manager.

Ritchie Coryell presented the results of his analysis of the commercialization record for 15 small businesses that have received Phase 2B awards. The form used to collect information was previously reviewed and edited by AdComm members. The information collected is compiled in a database prepared by Jonetta Fantroy.

The AdComm believes that the commercialization data collected can yield additional insights through further analysis and minor adjustment to the survey tool being followed. Kesh Narayanan suggested the need to focus in the next few months on preparing commercialization data for the COV that meets in early May 2004. He asked for guidance on establishing a data set for this analysis, and on “what to do differently” in the data analysis. AdComm members Penny Pickett and Meg Wilson volunteered to work with Ritchie Coryell and Jonetta Fantroy in responding to Kesh’s request for direction. Penny Pickett and Meg Wilson will convey the plan of action to the AdComm for comment once it is formulated.

## **7. MatchMaker Discussion**

The AdComm discussed the MatchMaker process, and focused on the lack of “signups” or “opting in” by small businesses. Jonetta Fantroy reported that only 14 small businesses have registered at MatchMaker. About 40 investors have signed up.

Dave Spencer queried why this lack of participation is so. Possible reasons were discussed, and concern expressed if this reflects a lack of interest in and commitment to commercialization by SBIR awardees. Several means of establishing the reason for this lack of participation were discussed.

Kesh Narayanan reviewed the history of MatchMaker. He stated that he initially thought the challenge would be attracting interested investors in MatchMaker, rather than small

businesses. Hence, his “outreach” efforts focused on the investor community, not the small business awardees. He asked for more time to address the issue of engaging small businesses and potential strategic corporate partners. The AdComm supports Kesh Narayanan’s plan, and recommends that he report to the AdComm at the next meeting on the status of MatchMaker and the engagement of small businesses.

## **8. NRC SBIR Study Discussion**

At the previous AdComm meeting (17-18 Jun 2003), concern was expressed about the direction of the NRC study. Based on interactions with NSF representatives and Chuck Wessner at the conference, the AdComm’s concerns have been reduced.

Ritchie Coryell provides NSF’s primary interface with the ongoing NRC study, and reported that he believes the study is progressing well.

Rosalie Ruegg, a NRC contractor responsible for the NSF part of the NRC study, attended this AdComm meeting. She reported the need for data from NSF for her work in support of the study.

Kesh Narayanan stated the need for NSF representatives to meet with NRC study representatives to establish agreement on specific data to be provided, and a schedule for doing so. The AdComm recommends that this meeting be scheduled and held as soon as possible to resolve outstanding issues and meet the March reporting deadline.

Thursday, 8 Jan 2004

## **9. Review of draft minutes**

Chris Busch provided copies of draft minutes for discussion, and items in it were discussed further.

## **10. Continuation of Feedback on Rest of Conference**

Some members of the AdComm raised the possibility of separating the SBIR and the academic parts of the conference. It was noted that the technical scope of the SBIR topics (AM, BT, EL, IT) at the conference are much broader than that for the academic topics. Also, the focus on commercialization is not stressed in the academic topic areas. AdComm members expressed the need for more background information and preparation before reaching any conclusions.

It is recommended that NSF and the AdComm look at several conference-related issues at the June 2004 meeting: 1) the size and effectiveness of the combined conference that is now ~800 participants; 2) the degree of interaction between the academic and SBIR presenters and any benefits derived, and 3) the focus, communications and networking interactions for SBIR grantees, especially on the subject of commercialization.

Prior to the May Committee of Visitors review and the June AdComm session, Chris Busch and Penny Pickett will meet with leadership within the Engineering Directorate about the organization of the SBIR program within the ENG Directorate, and possible alternatives to the current internal organization in light of the new NSF strategic goal addressing “organizational excellence.”

#### **11. Commercialization Assistance Discussion**

Following up on Kesh Narayanan’s request for advice on providing commercialization assistance in Phase 2, the AdComm recommends that NSF examine current services and other means to provide assistance. However, the AdComm recommends that NSF first define required skill sets for commercialization assistance necessary for any candidate entities providing the assistance. In addition, it is recommended that NSF allow contractors to compete for the commercialization assistance service even if they are not yet listed on the GSA schedule.

Jo Anne Goodnight raised the possibility that state SBIR outreach organizations could provide commercialization assistance. Several AdCom members (David Spencer, Tyrone Taylor, Chris Busch) expressed reservations that state organizations generally are not equipped to carry out this function. Goodnight and Busch agreed to discuss this option.

#### **12. Milt Steward Presentation**

Milton Stewart provided background on five companies he observed that had utilized SBIR awards early in the building their businesses. He commented that it is useful to look for companies that serve as examples of significant achievement in technological contributions and noteworthy commercialization. Milt Stewart suggested consideration of an award recognizing commitment to innovation and commercialization for companies successfully utilizing SBIR research grants.

The meeting was adjourned at approximately 12:00 noon.